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Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

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Bruce Lehman

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Sandra L. Morton

Attest

US005818839A

United States Patent [19]

Sterne et al.

[11] Patent Number: 5,818,839

[45] Date of Patent: Oct. 6, 1998

[54] **TIMING REFERENCE FOR SCHEDULING DATA TRAFFIC ON MULTIPLE PORTS**

[75] Inventors: **Jason T. Sterne**, Ottawa; **David W. Carr**; **Joey M. W. Chow**, both of Nepean, all of Canada

[73] Assignee: **Newbridge Networks Corporation**, Kanata, Canada

[21] Appl. No.: **884,625**

[22] Filed: **Jun. 27, 1997**

[51] **Int. Cl.**[6] **H04L 12/56**

[52] **U.S. Cl.** **370/391**; 370/418

[58] **Field of Search** 370/468, 543, 370/412, 414, 416, 418, 230, 235, 391, 417, 395

[56] **References Cited**

U.S. PATENT DOCUMENTS

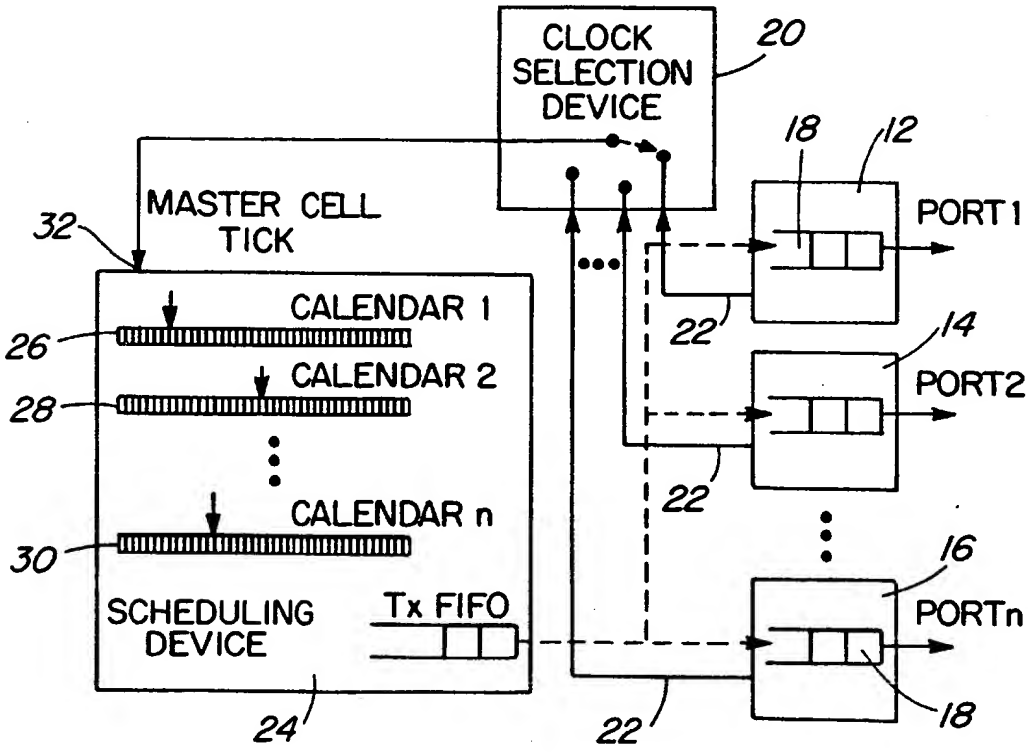
3,665,405	5/1972	Sanders et al.	370/538
5,280,475	1/1994	Yanagi et al.	370/395
5,416,434	5/1995	Kootstra et al.	327/113
5,500,858	3/1996	McKeown	370/412
5,535,201	7/1996	Zheng	370/231
5,640,389	6/1997	Masaki et al.	370/418
5,719,865	2/1998	Sato	370/395
5,734,650	3/1998	Hayter et al.	370/391
5,745,477	4/1998	Zheng et al.	370/230

Primary Examiner—Chau Nguyen
Assistant Examiner—Kenneth Vanderpuye
Attorney, Agent, or Firm—Marks & Clerk

[57] **ABSTRACT**

Data traffic such as cell streams in an ATM communication network frequently contain data destined for multiple output ports having different transmission data rates. In order to accurately schedule such traffic a clocking signal unique to each output data rate is required. This invention provides systems and methods for generating the necessary clock signals utilizing a single timing reference.

12 Claims, 2 Drawing Sheets



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